

REMARKS

Claims 1-25 were pending in this application.

Claims 11-20 have been withdrawn as being directed to a non-elected species and are hereby cancelled without prejudice or disclaimer.

Claims 1-10 and 21-25 have been rejected.

Claims 1 and 21 have been amended as shown above.

Claims 26-35 have been added.

Claims 1-10 and 21-35 are now pending in this application.

Reconsideration and full allowance of Claims 1-10 and 21-35 are respectfully requested.

I. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-10 and 21-25 under 35 U.S.C. § 103(a) as being unpatentable over Applicant Admitted Prior Art (“APA”) in view of U.S. Patent No. 6,168,977 to Konishi (“Konishi”) and Tenney et al., “Etch Rates of Doped Oxides in Solutions of Buffered HF” (“Tenney”). The Applicant respectfully traverses this rejection.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP* § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)). Only when a *prima*

facie case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993)). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985)).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993)). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. (*MPEP* § 2142).

Claim 1 recites that a "wet etch process" is performed on a "phosphorus doped oxide layer" for a time period to "etch through the phosphorus doped oxide layer and partially into [a] boron doped oxide layer." Claim 21 recites that a "wet etch process" is performed on a layer of "second doped oxide" for a time period to "etch through the layer of second doped oxide and

partially into [a] layer of first doped oxide.” All of the cited references fail to disclose, teach, or suggest these elements of Claims 1 and 21.

APA recites a semiconductor device 100 that includes a single oxide layer 130 over a metal layer 120, where the single oxide layer 130 is etched to a desired thickness. (*Application, Pars. [0027]-[0028]*). *APA* lacks any mention of using a wet etch process to etch through one oxide layer and partially into another oxide layer as recited in Claims 1 and 21.

Konishi recites a method for manufacturing a semiconductor device having a fuse conductive pattern. (*Abstract*). The semiconductor device includes a first insulation layer 4, a stopper portion 5b, and a second insulation layer 6. (*Col. 3, Lines 15-60*). The second insulation layer 6 is dry etched down to the stopper portion 5b, and the stopper portion 5b is dry etched to reveal the first insulation layer 4. (*Col. 4, Lines 8-63*).

Konishi simply recites a technique where multiple dry etches are performed, one to etch through the second insulation layer 6 and another to etch through the stopper portion 5b. *Konishi* lacks any mention of performing a “wet etch process” on a doped oxide layer for a time period to etch through that doped oxide layer and partially into another doped oxide layer as recited in Claims 1 and 21.

Tenney is cited by the Office Action merely to show the relative wet etch rates of PSG and BSG. (*Office Action, Page 3, Fourth paragraph*). *Tenney* is not cited as disclosing, teaching, or suggesting the performance of a “wet etch process” on one doped oxide layer for a time period to etch through that doped oxide layer and partially into another doped oxide layer as recited in Claims 1 and 21.

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claims 1 and 21 (and their dependent claims). Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejection and full allowance of Claims 1-10 and 21-25.

II. NEW CLAIMS

The Applicant has added new Claims 26-35. The Applicant respectfully submits that no new matter has been added. At a minimum, the Applicant respectfully submits that Claims 26-35 are patentable for the reasons discussed above. The Applicant respectfully requests entry and full allowance of Claims 26-35.

III. CONCLUSION

The Applicant respectfully asserts that all pending claims in this application are in condition for allowance and respectfully requests full allowance of the claims.

SUMMARY

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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